

# The Interindustry Structure of the United States

## A Report on the 1958 Input-Output Study

THIS report presents preliminary results of the 1958 Interindustry Relations Study. The 1958 study is part of a major new program of the Office of Business Economics which involves the periodic preparation of a set of interindustry (input-output) tables as part of an integrated system of national accounts.<sup>1</sup> Such an expanded system of integrated national accounts permits a much more comprehensive understanding of the interaction between the various industries and final markets of the economy.

The program was instituted in the latter half of 1959 in response to a recommendation of the National Accounts Review Committee which was set up at the request of the Bureau of the Budget to evaluate the national accounts work of the United States. One of the principal recommendations made by the Review Committee was that input-output accounts be prepared regularly as an important and integral component of the national accounts.<sup>2</sup> The relationship of input-output to the income and product account.

The 1958 input-output table was prepared as an integral part of the U.S. national economic accounts. To understand the relationship, it is useful to review briefly the National Income and Product Account which provides the takeoff point for the input-output account.

The National Income and Product Account presents the output of the Nation both in terms of final product flows and in terms of the basic income types generated in its production. The final product flows are shown in terms of sales to consumers (personal consumption expenditures), sales to investors and inventory change (gross private domestic investment), sales to government and net sales to foreigners. The income, referred to in this article as value added, is shown separately for compensation of employees, proprietors' income, rental income of persons, corporate profits, net interest, capital consumption allowances, indirect business taxes, business transfer payments and current surplus of government enterprises less subsidies. The flows of raw materials, semi-finished products, and services among the various industries are cancelled. The values of these flows are reflected in the final output.

The input-output table also shows final product flows and value added. The final product flows are shown as sales by each industry to the same final markets (consumers, investors, government and foreigners). The value added is shown by industry in which it originates. However, the input-output account extends the data to cover the flows of raw materials, semi-finished products and services among industries as well. In fact, it is the tracing of these flows which forms the basis of the major contribution of input-output.

Usually, input-output data are presented in a table in which each industry is represented by a row and a column; each final market by a column; and value added by one or more rows. The row for an industry shows the distribution of its output to itself and to other industries and final markets; the column shows its consumption of goods and services of the various industries and its value added.

Because the 1958 interindustry accounts have been constructed as a conceptually and statistically integrated complement of the national income and product accounts, the measurement of total GNP as well as of the flows to each of the final markets (personal consumption, gross private domestic investment, government purchases, and net exports) will be the same in the two sets of accounts.<sup>3</sup> The detail of the two accounts will differ, however. In the interindustry accounts the detail of these various final demand columns will be by industry (Table A shows the percent which each industry's sales is of the total sales to that final market). For the national income accounts other types of breakdown are shown.

With respect to value added, the income and product accounts show the several components separately, e.g., compensation of employees, corporate profits, capital consumption allowances, etc. The input-output tables included in this report combine all the components into a single "value added" row. While the value added total for all industries will be identical in the input-output and the national income

1. The development of the input-output tool of economic analysis and the actual construction of the first input-output tables were the work of Wassily W. Leontief. Professor Leontief constructed such tables for the United States for 1919, 1929, and 1939. These tables appear in Leontief's work, *The Structure of the American Economy, 1951*. The Bureau of Labor Statistics prepared an input-output table for 1947 which was released in 1952. These tables were not integrated with the National Income and Product Accounts.

2. The findings of this committee were published in *The National Economic Accounts of the United States*, Hearings Before the Subcommittee on Economic Statistics of the Joint Economic Committee, Congress of the United States, 1957.

NOTE.—A study of this magnitude requires the efforts of a large number of people. Important contributions were made by staff in the Farm Income Branch of the Department of Agriculture's Economic Research Service and in the Division of Economic Analysis of the Bureau of Mines. Within the Office of Business Economics, responsibility for the estimates contained in the National Economic Division with important assistance from staff of the National Income Division.

3. The dollar estimates of final markets and value added implied in the 1958 input-output study will, however, differ from those which appear in the July 1962 Survey of Current Business. In the course of developing the 1958 estimates, both for the input-output table and the national income and product benchmark, a number of statistical, conceptual, and definitional changes have been introduced. A revised time series on National Income and Product which incorporates these changes will be forthcoming at a later date.

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accounts, the industrial distribution will differ. A detailed industry-by-industry reconciliation will be included in a subsequent publication.

**Uses of input-output**

Input-output analysis has a variety of applications including such diverse uses as evaluating an individual firm's sales potential and probing the implications of broad economic programs. For example, a businessman can compare his company's marketing position with that of the industry as a whole and note possible areas of additional market potential. Moreover, while companies frequently know the industries which use their products and services, they less frequently know the industries which use the products and services of their customers. Furthermore, their knowledge diminishes rapidly as these relationships are extended to the customers' customers, and so on. An approach, such as input-output, which traces these myriad purchase and sale relationships permits an understanding of the probable changes in demand for the products of any given industry that may result from expected changes in other industries or markets which are seemingly unrelated.

Input-output is a powerful tool for analyzing changes in the economy because it provides a series of links between the demands of final markets and the outputs of industries. Consequently, it brings into focus the possible repercussions of changes in gross national product or its components on the output of each of the industries. For example, it permits identifying the industries which are affected directly and indirectly (and the extent to which they are affected) by specified changes in consumer expenditures, by increasing exports or imports, by changes in the level of defense expenditures, or by an expansion of Federal road building programs.

By use of supplementary data on the employment required per unit of output, the output requirement from each industry can, in turn, be translated into requirements for employment. In a parallel fashion, supplementary information on capital and capacity might be used to shed light on the possible needs for additional plant and equipment.

**Table A.—Industrial Composition of Purchases by Final Demand Categories, 1958**  
(Percent)

Producing industry	Final demand categories <sup>1</sup>					
	Personal consumption expenditures	Gross private fixed capital formation	Net inventory change <sup>2</sup>	Gross exports of goods and services	Federal Government purchases	State and local government purchases
Total	100.00	100.00	100.00	100.00	100.00	100.00
1. Livestock and Livestock Products	.73	0	40.23	.16	-.01	.08
2. Other Agricultural Products	.85	0	28.74	7.62	2.08	.07
3. Forestry and Fishery Products	.10	0	1.29	.13	-.25	(*)
4. Agricultural, Forestry and Fishery Services	0	0	1.84	.01	.06	-.17
5. Iron and Ferrous Ore Mining	0	0	-1.54	.17	0	0
6. Nonferrous Metal Ore Mining	0	0	-2.16	.02	.06	0
7. Coal Mining	.06	0	-1.50	1.41	0	.18
8. Crude Petroleum and Natural Gas	0	0	-2.70	.12	0	0
9. Stone and Clay Mining and Quarrying	.01	0	.24	.10	-.02	-.04
10. Chemicals and Fertilizers Mineral Mining	(*)	0	-.06	.24	.02	.08
11. New Construction	0	50.28	0	.08	6.82	29.76
12. Maintenance and Repair Construction	0	0	0	4	1.88	8.26
13. Ordnance and Accessories	.05	0	5.64	.07	4.24	.01
14. Food and Kindred Products	15.77	0	16.68	4.32	.01	.07
15. Tobacco Manufacture	1.36	0	-1.71	1.86	0	(*)
16. Textile and Apparel	.25	0	-1.97	.30	.09	.02
17. Miscellaneous Fabricated Textile Products	.25	.07	-1.73	.20	.04	(*)
18. Lumber and Wood Products, Except Container	.06	0	.19	.47	-.01	(*)
19. Wooden Containers	0	0	-.63	.04	(*)	(*)
20. Household Furniture	.03	.20	-.63	.06	.05	.14
21. Other Furniture and Fixtures	.04	1.28	-.04	.08	.03	.01
22. Paper and Allied Products, Except Containers	.09	0	-.17	1.11	.03	.01
23. Paperboard Container and Boxes	.02	0	-.06	.08	.01	(*)
24. Printing and Publishing	.04	0	.71	.40	.17	.43
25. Chemicals and Selected Chemical Products	.07	0	-1.63	2.89	1.38	.00
26. Plastics and Synthetic Materials	(*)	0	-2.93	1.49	.01	0
27. Drugs, Cleaning and Toilet Preparations	1.26	0	2.75	1.88	.26	.44
28. Paints and Allied Products	.01	0	-.23	.12	.01	(*)
29. Petroleum Refining and Related Industries	2.50	0	-12.48	1.79	1.23	.94
30. Rubber and Miscellaneous Plastics Products	.45	.06	-2.18	.20	.22	.18
31. Leather Tanning and Industrial Leather Products	0	0	-.17	.12	0	0
32. Footwear and Other Leather Products	.09	.01	2.15	.15	.04	(*)
33. Glass and Glass Products	.04	0	-.36	.29	0	0
34. Stone and Clay Products	.07	0	1.85	.42	.01	.01
35. Primary Iron and Steel Manufacturing	.01	0	-10.71	2.23	.11	(*)
36. Primary Nonferrous Metal Manufacturing	(*)	0	-.65	1.30	.02	0
37. Metal Containers	0	0.03	-.06	.11	.03	0
38. Heating, Plumbing and Structural Metal Products	.02	1.18	-.60	.96	(*)	0
39. Stamping, Screw Machine Products & Bolts	.09	0	-.49	.12	.17	.01
40. Other Fabricated Metal Products	.15	.27	-3.25	1.97	.21	.11
41. Engines & Turbines	.04	.02	-4.03	.40	.05	.01
42. Farm Machinery & Equipment	(*)	2.05	-1.92	.50	.01	.04
43. Construction, Mining & Oil Field Machinery	0	2.11	-4.93	3.02	.15	.05
44. Materials Handling Machinery & Equipment	0	.46	-1.60	.38	.26	.19
45. Metalworking Machinery & Equipment	.01	1.85	-8.83	1.41	.32	.01
46. Special Industry Machinery & Equipment	.01	2.38	-7.15	1.37	.06	.07
47. General Industrial Machinery & Equipment	0	.08	-5.45	1.17	.37	.01
48. Machine Shop Products	0	0	-.70	.36	.06	.09
49. Office, Computing & Accounting Machines	.02	1.83	-.96	.58	.14	.22
50. Service Industry Machines	.06	1.53	-2.10	.58	.12	.03
51. Electric Industrial Equipment & Apparatus	.04	2.29	-8.92	1.20	.34	.01
52. Household Appliances	.08	.16	-4.28	.70	.04	(*)
53. Electric Lighting & Wiring Equipment	.11	.04	-1.97	.27	.08	.02
54. Radio, Television & Communication Equipment	.47	1.82	-4.70	.95	2.61	.45
55. Electronic Components & Accessories	.06	.04	-3.22	.35	.14	(*)
56. Misc. Electrical Machinery, Equipment & Supplies	.09	.13	-1.64	.30	.17	.06
57. Motor Vehicles & Equipment	3.17	5.78	-35.46	2.91	.57	1.08
58. Aircraft & Parts	.01	.57	-17.56	2.35	12.13	(*)
59. Other Transportation Equipment	.26	1.89	-6.06	1.27	1.22	.09
60. Scientific & Controlling Instruments	.12	.86	-.55	.75	1.02	.21
61. Optical, Ophthalmic & Photographic Equipment	.10	.36	.35	.35	.35	.04
62. Miscellaneous Manufacturing	.27	.45	2.28	.49	.67	.45
63. Transportation & Warehousing	2.98	.31	10.30	2.77	2.70	.09
64. Communications: Except Radio & T.V. Broadcasting	1.35	.59	0	.27	.22	.47
65. Radio & T.V. Broadcasting	0	0	0	.04	0	0
66. Electric, Gas, Water & Sanitary Service	2.73	0	0	.15	.45	.20
67. Wholesale & Retail Trade	21.25	6.01	4.68	6.99	1.29	.45
68. Finance & Insurance	4.07	0	0	.09	(*)	.47
69. Real Estate & Rental	12.73	1.94	0	1.09	.21	.58
70. Hotels; Personal & Repair Services Excl. Auto.	1.26	0	0	0	.46	.23
71. Business Services	.45	0	0	.72	1.07	1.37
72. Research & Development	0	0	0	0	9.86	0
73. Automobile Repair & Services	1.51	0	0	0	.24	.20
74. Amusements	1.12	0	1.47	1.10	.93	-.11
75. Medical, Educational Services & Non-Profit Org	7.06	0	0	.08	.22	.77
76. Federal Government Enterprises	.22	0	0	.26	.11	.17
77. State & Local Government Enterprises	.11	0	0	.91	.21	.01
78. Gross Imports of Goods & Services	1.23	.02	.64	.63	6.07	.01
79. Business Travel, Entertainment & Gifts	0	0	0	0	0	0
80. Office Supplies	0	0	0	0	.16	.38
81. Scrap, Used, Second Hand Goods	(*)	-1.32	-12.73	.39	.23	.84
82. Government Industry	0	0	0	0	27.34	46.00
83. Rest of the World Industry	-.40	0	0	18.44	-1.16	0
84. Household Industry	1.21	0	0	0	0	0
85. Inventory Valuation Adjustment	0	0	-30.83	0	0	0

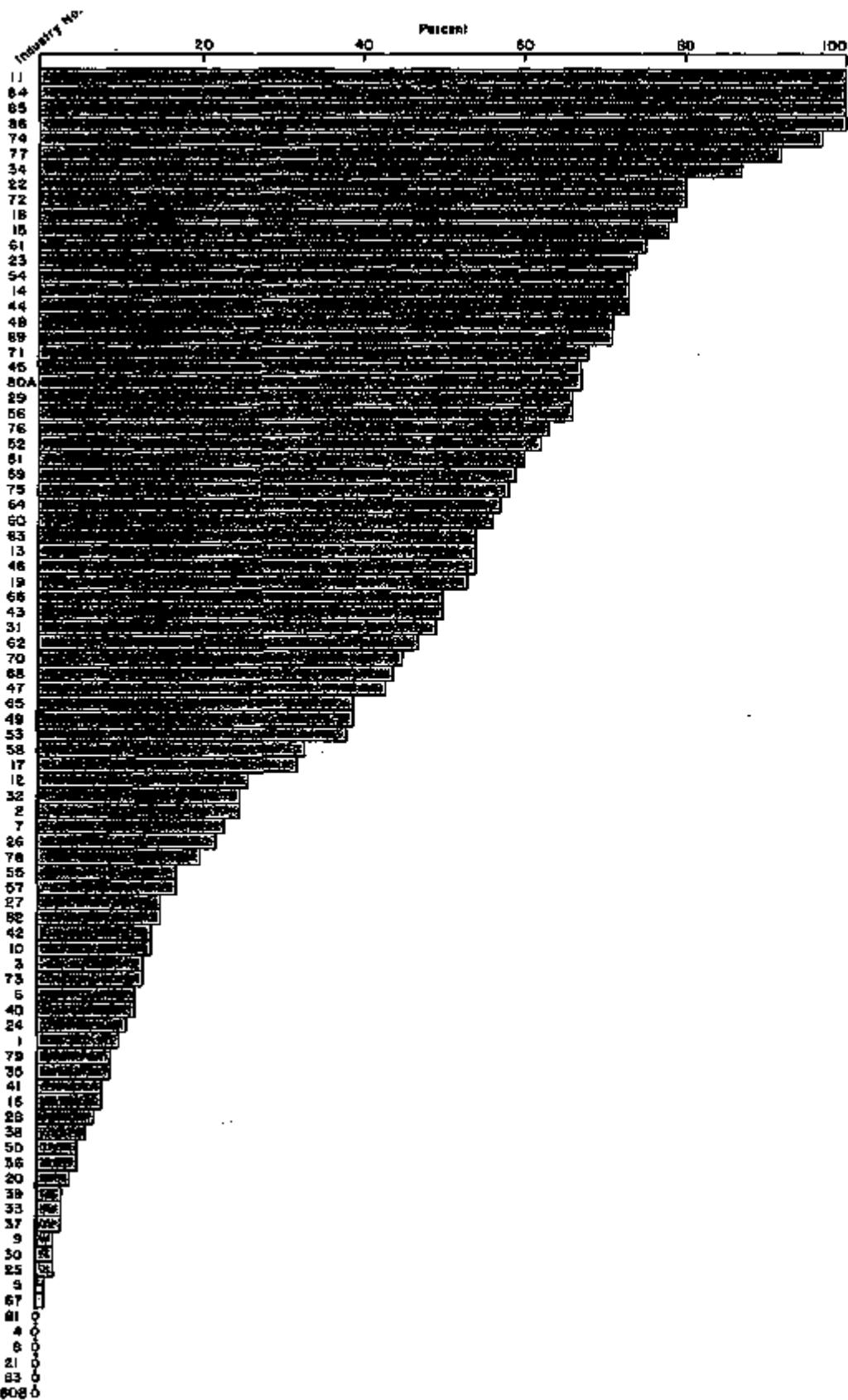
<sup>1</sup> The industrial distribution of final purchases is based on producers' prices. Final purchases are shown net of sales; this can result in negative percents where sales exceed purchases.

<sup>2</sup> The industrial distribution of inventory change represents the change in inventories of primary products of an industry (wherever held), rather than the change in all inventories held by an industry.

\* For the input-output table, the inventory valuation adjustment has been made in total only.

<sup>a</sup> Less than .005 percent. NOTE: Detail may not add to total due to rounding.

**Producing Industries Ranked by Percent of Output  
Sold Directly to Final Demand, 1958**



A simple example may serve to clarify the way in which input-output can be useful in analyzing changes in the economy. Suppose there is an increased demand by consumers for passenger cars. We know that the increased output of the automobile industry will generate a series of increased demands for output of a large number of other industries. There will be increased demand for steel which in turn will require more chemicals, such as sulfuric acid, more iron, more limestone, and more coal. There will be more demand for upholstery fabrics which will require more natural fibers from agriculture, more synthetic fibers from the chemical industry, and more plastics. The chemical industry will also be called upon to supply more synthetics such as nylon and rayon for the tire industry. These are only a few of the resulting demands occasioned by the single change in consumer requirements. The input-output tables permit tracing this complicated and highly intricate chain reaction through our industrial structure and measuring the demands, both direct and indirect, imposed upon each of the industries.

In conjunction with auxiliary information on the geographic distribution of industries, input-output analysis can be used to shed light on the regional implications of many national programs.

Input-output information is also useful in price analysis. By providing a chain of relationships and a set of weights for these relationships, it enables one to examine, for example, the possible impact on other industries of a given change in wages and/or prices in a specified industry.

Many of the uses of input-output involve the simplifying assumption that the relationships developed in the basic table are appropriate for other years and through a limited range of output levels. It is recognized that there are theoretical limitations to this assumption. However, for the most part, it is close enough to reality to yield satisfactory results.<sup>4</sup> Where significant

4. Further discussion of the nature and implications of this assumption is contained in the unpublished document available, upon request, from OBE. In addition, while the Office of Business Economics has applied the input-output technique to a limited extent in the course of developing the basic estimates, further analytical studies aimed partly at shedding light on the validity of the assumptions under varying conditions are planned for the future.

changes in relationships do occur, proper use of the input-output technique requires that such changes be introduced.

#### Description of the tables

Three basic tables on 1958 input-output relationships—the output distribution table, the direct requirements table, and the total requirements table—are presented in this first report on the 1958 input-output study.<sup>5</sup> These tables and some of the important economic relationships which they reveal are described below.<sup>6</sup>

*Output distribution table (table 1).* Table 1 provides information on the 1958 market patterns for the output of each of the industrial categories of goods or services. Each row of this table shows the distribution (in percentages) to each of the industries and final users of the goods and services of the industry. It provides the data needed by a firm to compare its sales pattern with that of its industry, thus identifying potential markets.

It can be noted from table 1 that the direct relationship between the production of an industry and its sales to final users varies considerably. Some industrial categories such as tobacco manufactures (15) and household furniture (22) sold over three-fourths of their total output to final users and are, therefore, directly affected by changes in final markets. On the other hand, other industrial cate-

<sup>5</sup> This report does not include one of the standard tables for the presentation of input-output relationships—the transaction or flow table. This table shows the dollar values of the transactions among the various industries, of the value added, and of the final markets of the economy. The sum of the appropriate final demand column in such a table is equivalent to gross national product in the year of the table. The preliminary estimates of GNP for 1958 developed as part of the input-output analysis are subject to modification in the course of the development of the revised time series on GNP. Until the time series is completed, the 1958 dollar values cannot be considered as final. However, changes in these values would not affect the interindustry structural relationships presented in this article.

<sup>6</sup> It should be noted that information presented in these tables is influenced by the concepts and conventions adopted for the 1958 input-output study. Thus, the various patterns are based on producers' prices. The information does not show sales to wholesale and retail trade for resale but shows the flow of goods directly from producer to user. Some of the distributions do not represent actual sales (or purchases) but reflect "intrafirms sales" (transfers) of secondary products to the primary producing industries. Consumption does not distinguish between domestic production and imports when the two are substitutable. The distributions to other industries represent actual consumption and do not include purchases for inventory accumulation or on capital account. Such purchases are included in the final demand categories, net inventory change and gross private fixed capital formation, respectively. The concepts and conventions are described briefly in the final section of this article.

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gories such as agricultural services (4) and iron and ferroalloy ores mining (5) sold virtually all of their output to intermediate consumers. For such industries the connection between production and final markets is remote and can be traced only through the sales of their customers. Of the 86 separate industries examined, 51 sold over half of their output to intermediate users; as many as 36 sold more than three-fourths of their output to industrial users. The wide range in the percentage of total output sold directly to final demand is shown in the chart on page 12 which arrays the 86 producing industries by the proportion of their output which was sold directly to final users.

It can also be noted from table 1 that there are wide differences amongst industrial categories in the degree of diversity of their intermediate distribution patterns. For example, while the primary iron and steel manufacturing industry (37) and the metal container industry (39) both sold over 90 percent of their output to other producing industries, the former sold its output to 55 intermediate industries no one having purchased more than 20 percent of its output, while the latter sold its output to only 12 industries with one industry, food and kindred products (14), having absorbed 73 percent of its output.

It is important to bear in mind that the output distributions shown in table 1 refer to 1958 and, therefore, reflect the demand, prices, and product mixture for that year. This output distribution pattern is likely to fluctuate over time as a result of changes in relative importance of industrial markets. Thus, this pattern should be applied with caution to other years.

*Direct requirements table (table 2).* Table 2 relates each of the inputs of an industry to its total output. Each column of table 2 shows the inputs that the industry named at the top of that column required from each of the industries named at the beginning of the rows to produce a dollar of its output. For example, to produce a dollar of output, the chemicals manufacturing industry (col. 27) required 19 cents of its own production, 5 cents from the petroleum refining industry (row 31), 3 cents from the chemical mining industry (row 10), etc.

The information in table 2 reflects the relatively complex and specialized nature of the United States production process. The table shows quite clearly the heavy interdependence amongst the various producing industries. Ours is not a production process characterized by a simple structure which combines basic raw materials with labor and machines to turn out products which are sold to the final user. Rather, it is characterized by a highly specialized system which fabricates semiprocessed goods and various business services for combination into still further advanced stages of fabrication.

Almost all industries required inputs from at least 25 different industries. As many as 58 producing industries required inputs from over 50 different industries. The chemicals industry (column 27) for example, required inputs from 71 different industries and only 8 of these supplying industries can be considered producers of basic raw materials.

The data in table 2 permit the tracing of the interconnections among the various industries and final demand in a systematic way. For example, assume that the household furniture industry produces \$1 million of furniture for sale to consumers. By reference to column 22 it is seen that the household furniture industry would require slightly under \$15,000 ( $\$1,000,000 \times .01488$ ) from itself. Thus, industry 22 would have to produce a minimum of \$1,015,000. Continuing the example, this amount of output would require almost \$58,000 ( $\$1,015,000 \times .05685$ ) of fabrics from industry 16, a little over \$125,000 ( $\$1,015,000 \times .12421$ ) of wood products from industry 20 (and so on down the column).

Next we can calculate the output required by each of the supplying industries to meet the requirement placed on them. For example, industry 22 has so far placed a demand on industry 16 for \$58,000 of fabrics. In order to produce this value of fabrics, calculating in a similar fashion, industry 16 imposes a demand of \$20,000 ( $\$58,000 \times .34664$ ) on itself, and for the resulting output requires almost \$7,000 ( $\$78,000 \times .08465$ ) of man-made fibers and other plastic materials from industry 28, and so on.

Table B.—Total, Direct, and Indirect Output Attributable to Each Category of Final Demand, 1968  
(Percent)

Producing Industry	Personal consumption expenditures			Gross private fixed capital formation			Net inventory change			Gross exports			Federal government purchases			State and local government purchases					
	Total		Direct	Total		Direct	Total		Direct	Total		Direct	Total		Direct	Total		Direct	Indirect		
	Total	Direct	Indirect	Total	Direct	Indirect	Total	Direct	Indirect	Total	Direct	Indirect	Total	Direct	Indirect	Total	Direct	Indirect	Total	Direct	Indirect
1. Livestock & Livestock Products	59.9	8.0	51.9	3.4	0	1.4	3.4	2.8	1.1	3.0	.1	2.8	1.4	(*)	1.4	1.9	(*)	1.2	1.2	1.2	
2. Other Agricultural Products	76.2	10.6	66.7	2.9	0	2.9	3.0	1.8	1.8	10.3	7.6	2.8	8.8	4.7	1.6	1.6	1.2	1.1	1.2	1.2	
3. Forestry & Fishery Products	54.1	10.4	44.7	25.2	0	25.2	1.8	1.3	1.5	5.0	2.1	2.9	-0.3	-0.4	4.1	4.1	(*)	1.1	1.1	1.1	
4. Agricultural, Forestry & Fishery Services	100.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5. Iron & Ferroalloy Ores Mining	51.6	0	50.6	3.8	0	3.8	4.1	1.3	2.8	1.8	.2	1.1	5.1	2.9	4.2	-2.9	-4.4	1.5	1.5	1.5	
6. Nonferrous Metal Ores Mining	52.1	0	52.1	37.2	0	37.2	-4.6	-1.8	-2.7	12.8	2.2	10.2	12.8	12.8	0	12.8	12.8	0	8.9	8.9	0
7. Coal Mining	24.0	0	24.0	26.0	0	26.0	-4.4	-2.4	-2.0	21.1	3.3	18.8	26.0	21.1	7.1	21.1	21.1	7.1	14.4	14.4	14.4
8. Crude Petroleum & Natural Gas	53.9	9.8	44.4	16.9	0	14.9	-1.6	-1.3	-1.0	19.1	12.1	7.0	9.3	9.3	0	8.3	7.6	0	2.2	2.2	2.2
9. Stone & Clay Mining & Quarrying	72.1	0	72.1	9.0	0	9.0	-1.8	-1.4	-1.4	6.8	3.3	5.5	6.8	6.8	0	7.2	6.8	0	1.8	1.8	1.8
10. Chemicals & Fertilizers Mineral Mining	24.2	1.1	22.1	45.5	0	45.5	-2.2	-1.2	(*)	4.5	1.4	3.1	8.2	1.4	1.4	16.4	1.7	1.7	1.1	1.1	1.1
11. New Construction	0	0	0	11.8	0	11.8	-0.6	-0.2	-0.2	20.6	9.8	10.7	13.1	1.6	1.6	11.2	2.1	2.1	0.4	0.4	0.4
12. Maintenance & Repair Construction	60.7	0	60.7	8.4	0	8.4	.1	0	-1.1	2.5	0	1.5	9.2	0	0	21.9	19.9	2.0	2.0	2.0	2.0
13. Ordnance & Accessories	7.0	2.1	5.8	2.8	0	2.8	1.4	1.8	-1.4	1.7	1.4	1.8	18.6	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
14. Food & Kindred Products	94.0	70.2	23.8	1.0	0	1.0	-0.6	-0.4	-0.2	2.5	1.7	1.8	1.0	1.0	0	1.0	1.0	0	1.5	1.5	0
15. Tobacco Manufactures	90.3	71.8	18.5	.6	0	.6	-1.5	-1.4	-1.1	9.2	7.3	1.9	.8	.8	0	1.0	1.0	0	1.2	1.2	0
16. Broad & Narrow Fabrics, Yarn & Thread Mills	90.0	8.5	82.2	3.0	0	3.0	-3.3	-2.0	-1.3	1.9	1.0	2.0	3.2	1.0	1.0	1.4	1.2	1.2	1.3	1.3	1.3
17. Mist. Textile Goods & Floor Coverings	80.5	20.7	50.8	9.2	1.8	7.8	-2.7	-1.1	-1.1	5.2	1.8	3.4	4.4	1.8	1.8	4.2	4.2	4.2	3.3	3.3	3.3
18. Apparel	91.5	72.1	19.4	.5	0	.5	-1.1	-1.0	-1.0	1.4	1.0	1.4	1.7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
19. Miscellaneous Fabricated Textile Products	88.5	51.1	38.6	3.8	0	3.8	-0.8	(*)	-1.3	2.6	.2	1.7	6.6	1.5	1.5	1.0	1.1	1.1	1.1	1.1	1.1
20. Lumber & Wood Products, Except Container	27.7	1.8	25.0	45.2	1	45.1	-0.8	-1.0	-1.1	3.8	1.2	2.5	6.7	-1.1	1.8	15.8	(*)	15.8	15.8	15.8	15.8
21. Wooden Containers	72.1	0	72.1	12.4	0	12.4	-1.8	-2.1	-1.5	6.2	1.8	5.7	4.1	1.8	1.8	2.0	2.0	2.0	2.0	2.0	2.0
22. Household Furniture	78.1	72.2	6.9	15.9	3.8	9.5	-1.8	-1.2	-1.1	1.0	1.0	1.4	3.7	1.0	1.0	1.2	1.2	1.2	1.2	1.2	1.2
23. Other Furniture & Fixtures	14.2	3.6	8.6	55.4	12.2	-1.1	(*)	-1.1	1.8	3.2	.8	4.9	1.0	1.0	1.0	12.6	8.5	8.5	8.5	8.5	8.5
24. Paper & Allied Products, Except Containers	82.2	8.1	60.1	12.0	0	12.0	-2.2	(*)	-2.2	6.8	2.4	4.4	6.6	1.7	1.7	5.2	5.2	5.2	5.2	5.2	5.2
25. Paperboard Containers & Boxes	72.9	1.0	72.0	11.4	0	11.4	-2.2	(*)	-2.2	6.1	1.5	4.6	5.9	1.7	1.7	5.0	5.0	5.0	5.0	5.0	5.0
26. Printing & Publishing	72.1	19.3	53.2	30.2	0	30.2	(*)	-1.1	-1.1	2.7	1.7	1.7	3.8	1.7	1.7	5.4	5.4	5.4	5.4	5.4	5.4
27. Chemicals & Selected Chemical Products	82.8	1.8	51.6	12.0	0	12.0	-1.5	-1.2	-1.3	10.2	5.6	2.6	14.6	8.1	8.1	7.4	7.4	7.4	7.4	7.4	7.4
28. Plastics & Synthetic Materials	63.5	1.2	62.3	12.5	0	12.5	-2.3	-1.0	-1.3	14.0	7.9	6.1	7.7	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
29. Drugs, Cleaning & Toilet Preparations	82.6	55.9	26.7	2.3	0	2.3	-1.8	-1.8	(*)	6.9	4.9	1.4	4.1	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1
30. Paints & Allied Products	52.1	1.9	51.3	19.4	0	19.4	-1.6	-1.2	-1.4	8.1	1.8	2.6	6.9	1.1	1.1	15.0	(*)	15.0	15.0	15.0	15.0
31. Petroleum Refining & Related Industries	70.9	40.3	30.6	9.3	0	9.3	-1.0	-1.0	(*)	8.8	3.6	1.3	8.1	4.0	4.1	5.9	2.1	3.8	3.8	3.8	3.8
32. Rubber & Miscellaneous Plastics Products	52.9	19.0	42.9	16.1	.8	15.8	-1.8	-1.6	-1.5	7.9	3.1	4.1	9.6	1.7	1.7	6.2	1.1	4.1	4.1	4.1	4.1
33. Leather Tanning & Industrial Leather Products	51.7	0	50.7	2.9	0	2.9	-1.5	-1.0	-1.0	5.4	3.1	2.3	1.7	0	1.7	1.8	1.8	1.8	1.8	1.8	1.8
34. Footwear & Other Leather Products	92.8	33.4	11.7	.7	0	.7	-1.6	1.1	1.0	1.5	1.2	1.2	1.7	1.2	1.2	1.8	1.8	1.8	1.8	1.8	1.8
35. Glass & Glass Products	48.2	5.9	42.3	14.5	0	14.5	-1.7	-1.2	-1.5	6.8	3.1	3.8	6.4	1.2	1.2	4.7	4.7	4.7	4.7	4.7	4.7
36. Stems & Clay Products	20.0	2.8	17.2	22.6	0	22.6	(*)	-1.4	-1.4	3.6	1.2	2.8	2.3	1.1	1.1	17.5	(*)	17.5	17.5	17.5	17.5
37. Primary Iron & Steel Manufacturing	31.4	1.1	31.2	22.6	0	22.6	-2.7	-1.8	-1.9	10.1	7.8	2.8	12.5	1.6	1.6	9.1	(*)	9.1	9.1	9.1	9.1
38. Primary Nonferrous Metal Manufacturing	28.2	.1	28.1	22.6	0	22.6	-1.6	-1.1	-1.5	10.1	3.0	7.1	22.3	8.5	8.5	19.0	8.4	8.4	8.4	8.4	8.4
39. Metal Containers	84.5	0	84.5	3.8	0	3.8	-1.6	-1.6	-1.4	4.8	1.2	3.8	3.8	1.8	1.8	2.8	2.8	2.8	2.8	2.8	2.8
40. Heating, Plumbing & Structural Metal Products	11.9	0	11.0	60.0	0	60.0	-1.1	-1.0	-1.0	4.1	2.8	1.2	7.0	(*)	7.0	18.1	0	18.1	0	18.1	0
41. Stamping, Screw Machine Products & Bolts	47.1	6.7	40.4	21.4	0	21.4	-1.7	-1.8	-1.9	2.1	1.8	1.8	8.3	18.2	2.6	16.7	4.9	4.9	4.9	4.9	4.9
42. Other Fabricated Metal Products	62.7	5.8	55.9	20.6	2.5	20.6	-1.9	-1.7	-1.2	8.6	3.8	4.3	11.9	1.7	1.7	10.2	8.1	8.1	7.4	7.4	7.4
43. Engines & Turbines	21.1	5.7	15.4	40.1	25.1	25.1	-1.8	-1.8	-1.1	14.8	9.5	5.2	19.1	10.8	10.8	21.1	1.1	1.1	2.0	2.0	2.0
44. Farm Machinery & Equipment	12.8	0	12.0	73.0	55.1	55.1	-1.9	-1.9	-1.9	10.0	7.8	2.7	2.9	2.9	2.9	12.7	1.7	1.7	1.7	1.7	1.7
45. Construction, Mining & Oil Field Machinery	8.2	0	8.2	57.8	42.8	42.8	-3.0	-3.4	-1.4	26.9	28.0	8.9	6.1	2.6	2.6	2.9	2.9	2.9	3.2	3.2	3.2
46. Materials Handling Machinery & Equipment	6.2	0	6.2	57.6	32.1	32.1	-2.6	-2.2	-1.4	8.4	7.0	7.0	14.7	12.4	12.4	6.8	11.8	11.8	6.8	11.8	11.8
47. Metalworking Machinery & Equipment	34.7	0	34.7	18.2	31.5	31.5	-1.2	-1.2	-1.2	14.0	9.0	5.0	20.6	4.7	10.9	2.6	1.1	1.1	1.1	1.1	1.1
48. Special Industry Machinery & Equipment	18.0	0	18.2	48.7	31.5	31.5	-1.4	-1.6	-1.8	17.5	12.5	5.0	19.9	1.1	1.1	1.1	2.4	2.4	2.4	2.4	2.4
49. General Industrial Machinery & Equipment	12.0	0	12.2	57.3	52.8	52.8	-1.3	-1.3	-1.2	17.5	14.8	2.9	4.3	1.2	3.1	2.7	1.9	1.9	1.9	1.9	1.9
50. Machine Shop Products	14.4	0	14.4	54.0	28.0	28.0	-2.6	-2.2	-1.4	12.4	7.3	8.1	15.3	5.8	10.0	4.5	1.1	1.1	1.1	1.1	1.1
51. Office, Computing & Accounting Machines	23.5	2.6	24.9	55.0	45.0	45.0	-1.8	-1.8	-1.6	11.0	7.0	7.0	21.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	
52. Service Industry Machines	24.9	11.0	13.0	57.6	52.4	52.4	-2.0	-1.6	-1.4	17.7	8.0	1.7	7.1	2.9	4.2	4.7	1.9	1.9	1.9	1.9	1.9
53. Electric Industrial Equipment & Apparatus	18.1	.3	18.2	46.1	31.3	31.3	-2.7	-2.6	-1.1	9.8	5.4	4.4	17.0	3.5	18.0	4.7	.1	4.6	4.6	4.6	4.6
54. Household Appliances</td																					

This chain of repeated calculations of output requirements which spread through the economy can be traced, and the total amount of output required from each industry to produce \$1 million of household furniture for consumers can thus be derived. This is a very laborious and time-consuming procedure unless performed on an electronic computer. However, there is an alternative, table 3, for which the relationships in table 2 have been completely traced and summarized.

Total requirements table (table 3). Each column of table 3 shows the amount of output required both directly and indirectly from the industry named at the beginning of each row for each dollar of deliveries to final demand by the industry named at the head of the column.<sup>7</sup> Table 3 is set up to measure the total requirements (direct and indirect) per dollar of delivery to final demand. This table permits calculating the impact on the various industries of the economy which result from stipulated changes in the final demand.

Returning to the example of the household furniture described above, we see that instead of the laborious tracing of the impacts from industry to industry, it is possible to calculate the impacts quite simply. Thus, the column for industry 22 shows that to provide final demand with an additional \$1 million of household furniture, \$1,016,000 ( $\$1,000,000 \times 1.01602$ ) is required in total from industry 22, almost \$99,000 ( $\$1,000,000 \times .09888$ ) from industry 16, almost \$183,000 ( $\$1,000,000 \times .18274$ ) from industry 20, etc.

As a further illustration of the link provided by input-output between final demand and the output of each industry, a series of calculations were performed using table 3. The results of these calculations appear in table B, which shows the percentage of output of each industry which was attributable, directly or indirectly, to each category of final demand in 1958.

A number of interesting observations emerge from this table. For example, it is seen that while only 8 percent of the output of the paper industry (24) was sold to persons, 68 percent of its output was attributable to total consumption by persons. The table also shows that almost 13 percent of the paper industry's output was indirectly associated with fixed investment (including residential construction) by all industries. Reading further, we find the 10 percent of chemical mining (10) which was exported directly was augmented by an additional 11 percent of output which was attributable to the exports of other commodities.

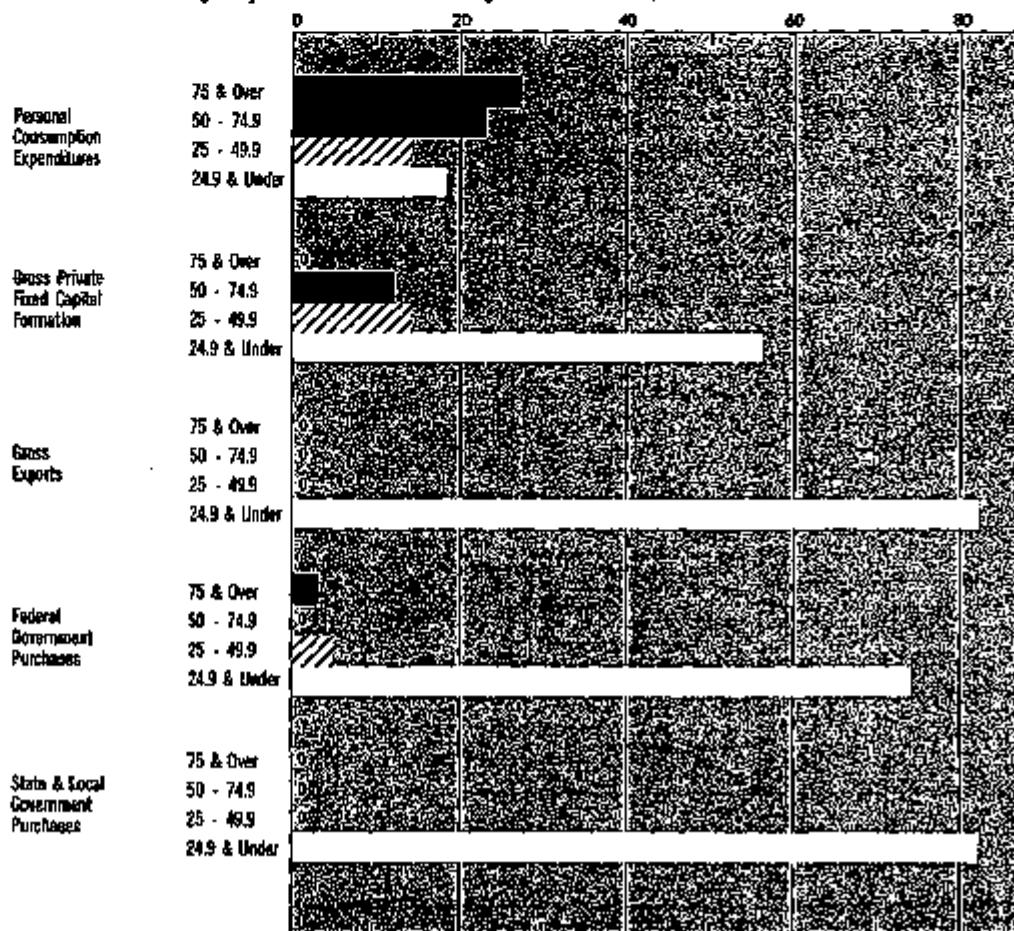
The information in table B showing the percentage of total output of each industry attributable to each final

demand category, has been summarized in the chart below. As would be expected, most industries are heavily dependent on consumer expenditures. Of the 82 industries included in this chart, 50 attribute half or more of their output to consumer purchases. Another 12 attribute more than half of their output to fixed investment and only 3 attribute more than half to Federal Government. The remaining eighteen industries depend on more than one final demand category for the bulk of their output. The maximum share of the output of any industry attributable to State and local governments was under 25 percent.

While table 3 is more convenient for calculating total requirements, table 2 will sometimes be preferred, because it

**Extent to Which Each Category of Final Demand Generated Output of Industries, 1958**

*This category of final demand, directly and indirectly generated . . . this percent of output . . . in this number of industries*



7. The mathematical procedures for converting direct requirements to total requirements are described in *Inter-industry Economics* by Charnay and Clark, *Input-Output in National Accounts* by Richard Stone, and other similar texts. The total requirements shown in table 3 were calculated using a program for electronic computers developed at the Harvard Economic Research Project.

permits flexibility in the computation and it permits modifying the relationships which are used. Moreover, table 2 can be used in conjunction with table 3 to split the total requirements into their direct and indirect components.

#### **Supplementary data requirements**

To use table 3 (or table 2) for questions involving the impact of changes in level and composition of GNP on each of the industries, the first step is to formulate a bill of goods. A bill of goods is nothing more than a set of final demands expressed in the classification<sup>2</sup> and other terms of the table. That is, the specifications must agree in classification and coverage with the table;

8. The industry classification scheme utilized in the 1980 study is shown in page 17 of this article.

they must be expressed in 1958 prices; and they must represent producers' prices. The amount of trade margin on all items of the bills of goods is separately specified as a requirement from the trade industry. Similarly the amount of transportation cost involved in delivery to final markets of all items in the bills of goods is separately entered as a requirement from the transportation industry.

Some of the supplementary data useful in preparing bills of goods are presented in this article. Table A (see page 11) shows the industrial composition of each category of final demand in 1958. These percentages may be used to distribute projections of each of the categories of final demand which are made in the aggregate only.

**Table C.—Industrial Composition of Personal Consumption Expenditures, 1958 by Major P.C.E. Category**

Producing Industry Number	Percent I	Producing Industry Number	Percent I	Producing Industry Number	Percent I	Producing Industry Number	Percent I
P.C.E. I		P.C.E. IV		P.C.E. VI		P.C.E. IX	
Food and Tobacco		Housing		Medical care and death expenses		Recreation	
1.	100.00	71.	100.00	1.	100.00	1.	100.00
2.	2.48	72.	2.22	2.	.03	2.	.44
3.	2.67	73.	.20	3.	.03	3.	2.13
4.	.33			4.	.03	4.	.10
5.	(*)			5.	(*)	5.	1.00
6.	65.54			6.	.10	6.	.06
7.	6.76			7.	.27	7.	.21
8.	.02			8.	.27	8.	.03
9.	2.40			9.	.04	9.	13.47
10.	29.47			10.	.02	10.	.37
11.	1.04			11.	.02	11.	.23
				12.	.01	12.	.15
				13.	.01	13.	.09
				14.	.01	14.	.09
				15.	.01	15.	.01
				16.	.01	16.	.01
				17.	.01	17.	.01
				18.	.01	18.	.01
				19.	.01	19.	.01
				20.	.01	20.	.01
				21.	.01	21.	.01
				22.	.01	22.	.01
				23.	.01	23.	.01
				24.	.01	24.	.01
				25.	.01	25.	.01
				26.	.01	26.	.01
				27.	.01	27.	.01
				28.	.01	28.	.01
				29.	.01	29.	.01
				30.	.01	30.	.01
				31.	.01	31.	.01
				32.	.01	32.	.01
				33.	.01	33.	.01
				34.	.01	34.	.01
				35.	.01	35.	.01
				36.	.01	36.	.01
				37.	.01	37.	.01
				38.	.01	38.	.01
				39.	.01	39.	.01
				40.	.01	40.	.01
				41.	.01	41.	.01
				42.	.01	42.	.01
				43.	.01	43.	.01
				44.	.01	44.	.01
				45.	.01	45.	.01
				46.	.01	46.	.01
				47.	.01	47.	.01
				48.	.01	48.	.01
				49.	.01	49.	.01
				50.	.01	50.	.01
				51.	.01	51.	.01
				52.	.01	52.	.01
				53.	.01	53.	.01
				54.	.01	54.	.01
				55.	.01	55.	.01
				56.	.01	56.	.01
				57.	.01	57.	.01
				58.	.01	58.	.01
				59.	.01	59.	.01
				60.	.01	60.	.01
				61.	.01	61.	.01
				62.	.01	62.	.01
				63.	.01	63.	.01
				64.	.01	64.	.01
				65.	.01	65.	.01
				66.	.01	66.	.01
				67.	.01	67.	.01
				68.	.01	68.	.01
				69.	.01	69.	.01
				70.	.01	70.	.01
				71.	.01	71.	.01
				72.	.01	72.	.01
				73.	.01	73.	.01
				74.	.01	74.	.01
				75.	.01	75.	.01
				76.	.01	76.	.01
				77.	.01	77.	.01
				78.	.01	78.	.01
				79.	.01	79.	.01
				80.	.01	80.	.01
				81.	.01	81.	.01
				82.	.01	82.	.01
				83.	.01	83.	.01
				84.	.01	84.	.01
				85.	.01	85.	.01
				86.	.01	86.	.01
				87.	.01	87.	.01
				88.	.01	88.	.01
				89.	.01	89.	.01
				90.	.01	90.	.01
				91.	.01	91.	.01
				92.	.01	92.	.01
				93.	.01	93.	.01
				94.	.01	94.	.01
				95.	.01	95.	.01
				96.	.01	96.	.01
				97.	.01	97.	.01
				98.	.01	98.	.01
				99.	.01	99.	.01
				100.	.01	100.	.01
P.C.E. II				P.C.E. VII		P.C.E. X	
Clothing, Accessories and Jewelry				Personal Businesses		Private Education and Research	
1.	100.00	2.	.03	3.	100.00	4.	100.00
2.	.05	3.	.04	4.	.05	5.	.04
3.	27.34	5.	6.76	5.	.15	6.	24.54
4.	.15	6.	.14	6.	.16	7.	.01
5.	.11	7.	.04	7.	.15	8.	5.53
6.	.79	8.	.31	8.	.28	9.	1.12
7.	35.26	9.	.30	9.	.40	10.	20.88
8.	.01	10.	.05	10.	.44	11.	.05
9.	.07	11.	.07	11.	.48	12.	.26
10.	.78	12.	.05	12.	.54	13.	.01
11.	-.09	13.	.05	13.	.58	14.	2.07
		14.	.05	14.	.62	15.	.01
		15.	.05	15.	.66	16.	7.24
		16.	.05	16.	.70	17.	.01
		17.	.05	17.	.74	18.	1.20
		18.	.05	18.	.78	19.	1.00
		19.	.05	19.	.82	20.	100.00
		20.	.05	20.	.86	21.	100.00
		21.	.05	21.	.90		
		22.	.05	22.	.94		
		23.	.05	23.	.98		
		24.	.05	24.	1.02		
		25.	.05	25.	1.06		
		26.	.05	26.	1.10		
		27.	.05	27.	1.14		
		28.	.05	28.	1.18		
		29.	.05	29.	1.22		
		30.	.05	30.	1.26		
		31.	.05	31.	1.30		
		32.	.05	32.	1.34		
		33.	.05	33.	1.38		
		34.	.05	34.	1.42		
		35.	.05	35.	1.46		
		36.	.05	36.	1.50		
		37.	.05	37.	1.54		
		38.	.05	38.	1.58		
		39.	.05	39.	1.62		
		40.	.05	40.	1.66		
		41.	.05	41.	1.70		
		42.	.05	42.	1.74		
		43.	.05	43.	1.78		
		44.	.05	44.	1.82		
		45.	.05	45.	1.86		
		46.	.05	46.	1.90		
		47.	.05	47.	1.94		
		48.	.05	48.	1.98		
		49.	.05	49.	2.02		
		50.	.05	50.	2.06		
		51.	.05	51.	2.10		
		52.	.05	52.	2.14		
		53.	.05	53.	2.18		
		54.	.05	54.	2.22		
		55.	.05	55.	2.26		
		56.	.05	56.	2.30		
		57.	.05	57.	2.34		
		58.	.05	58.	2.38		
		59.	.05	59.	2.42		
		60.	.05	60.	2.46		
		61.	.05	61.	2.50		
		62.	.05	62.	2.54		
		63.	.05	63.	2.58		
		64.	.05	64.	2.62		
		65.	.05	65.	2.66		
		66.	.05	66.	2.70		
		67.	.05	67.	2.74		
		68.	.05	68.	2.78		
		69.	.05	69.	2.82		
		70.	.05	70.	2.86		
		71.	.05	71.	2.90		
		72.	.05	72.	2.94		
		73.	.05	73.	2.98		
		74.	.05	74.	3.02		
		75.	.05	75.	3.06		
		76.	.05	76.	3.10		
		77.	.05	77.	3.14		
		78.	.05	78.	3.18		
		79.	.05	79.	3.22		
		80.	.05	80.	3.26		
		81.	.05	81.	3.30		
		82.	.05	82.	3.34		
		83.	.05	83.	3.38		
		84.	.05	84.	3.42		
		85.	.05	85.	3.46		
		86.	.05	86.	3.50		
		87.	.05	87.	3.54		
		88.	.05	88.	3.58		
		89.	.05	89.	3.62		
		90.	.05	90.	3.66		
		91.	.05	91.	3.70		
		92.	.05	92.	3.74		
		93.	.05	93.	3.78		
		94.	.05	94.	3.82		
		95.	.05	95.	3.86		
		96.	.05	96.	3.90		
		97.	.05	97.	3.94		
		98.	.05	98.	3.98		
		99.	.05	99.	4.02		
		100.	.05	100.	4.06		
P.C.E. III				P.C.E. VIII		P.C.E. XI	
Personal Care				Transportation		Religious and Welfare Activities	
19.	100.00	20.	.03	21.	.13	22.	.10
20.	.03	21.	.22	22.	.18	23.	.06
21.	25.38	22.	.22	23.	.06	24.	1.00
22.	.04	23.	.22	24.	.27	25.	.03
23.	1.83	24.	.22	25.	.27	26.	2.16
24.	1.22	25.	.22	26.	.27	27.	1.14
25.	1.65	26.	.22	27.	.27	28.	1.01
26.	1.23	27.	.22	28.	.27	29.	1.01
27.	24.85	28.	.22	29.	.27	30.	1.01
28.	45.75	29.	.22	30.	.27	31.	1.01
29.	.03	30.	.22	31.	.27	32.	1.01
30.		31.	.22	32.	.27	33.	1.01
31.		32.	.22	33.	.27	34.	1.01
32.		33.	.22	34.	.27	35.	1.01
33.		34.	.22	35.	.27	36.	1.01
34.		35.	.22	36.	.27	37.	1.01
35.		36.	.22	37.	.27	38.	1.01
36.		37.	.22	38.	.27	39.	1.01
37.		38.	.22	39.	.27	40.	1.01
38.		39.	.22	40.	.27	41.	1.01
39.		40.	.22	41.	.27	42.	1.01
40.		41.	.22	42.	.27	43.	1.01
41.		42.	.22	43.	.27	44.	1.01
42.		43.	.22	44.	.27	45.	1.01
43.		44.	.22	45.	.27	46.	1.01
44.		45.	.22	46.	.27	47.	1.01
45.		46.	.22	47.	.27	48.	1.01
46.		47.					

Further, table C classifies each industry's sales to consumers by the twelve major categories of personal consumption expenditures and shows the percent which that industry's sales is of the total for the category.<sup>9</sup> These percentages may be used to translate estimates of consumer expenditures at the twelve category level to the classification of the input-output table.

In addition to the auxiliary data provided in this article, one may require other information such as detailed factors for converting purchasers' prices to producers' prices and price deflators. The OBE will include detailed producer-purchaser price factors in a future publication. With respect to price deflators, the most comprehensive source is the price information included in the Consumer Price Indexes and the Wholesale Price Indexes of the U.S. Department of Labor. In addition, selected price deflators which are consistent with the personal consumption expenditure time series will have been developed as part of the benchmark revisions, and these will be made available to the extent possible.

## **Concepts and Conventions of the 1958 Interindustry Tables<sup>10</sup>**

**Trade.** The input-output tables do not trace actual flows to and from the trade industry. If trade were shown as buying and reselling, the detailed connections would be between trade and the producing industries while the consuming industries would purchase most of their inputs from a single source—trade. To show the links between producing and consuming industries or final markets, commodities are shown as if moving directly from producer to user, bypassing trade. Therefore, the output of trade is measured in terms of total margins; that is, operating expense plus profit.

*Valuation of transactions.* The valuation underlying the tables in this report is based on producers' prices.<sup>11</sup> Such prices exclude the distribution costs which make up the difference between producers' and purchasers' prices. Under a system of producers' valuations, the individual inputs into a consuming industry are valued at producers' prices while the trade margin and transportation costs associated with all of these inputs appear as aggregate inputs from the trade industry and transportation industry, respectively.

9. These tables relate the input-output classifications to the consumer expenditures as they will appear in the revised benchmark data. Since the estimates for the benchmark are not yet completed, the percentages are subject to revision.

10. This section of the report is discussed much more fully in an unpublished document which is available upon request to the O.E.B.

11. Producers' prices have been defined to include Federal and State and local excise taxes collected and paid by the producer.

\* Less than 0.005 percent.

<sup>1</sup>The industrial distributions shown in this table are based on producers' prices.

Note.—Final purchases are shown net of sales. This can result in negative percents where sales exceed purchases.  
Source: U.S. Department of Commerce, GBE.

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**Classification of industries.** All productive activities of the U.S. economy have been grouped into 86 industries. Most of these are combinations of industries as defined in the Standard Industrial Classification (SIC) Manual, 1957 edition. Three are "dummy" industries established to simplify the estimating procedures. A list of the industrial categories and their composition in terms of the SIC, where relevant, are given on this page.

**Secondary products or activities.** In most cases, secondary products were treated as if sold by the producing industry to the primary industry and added to the output of the primary industry.<sup>12</sup>

In those industries in which secondary production was large and, at the same time, considerably different from the primary output, the secondary products, and their associated inputs, were subtracted from the producing industries and added to the primary industry.

**Imports.** Imports used for production (intermediate goods and services) which are substitutable for domestically produced goods and services<sup>13</sup> were treated in a parallel manner to secondary products; that is, they were shown as if purchased by the industry producing the substitutable item and added to that industry's output.

Imports used in production which have no domestic counterparts and imports purchased by final demand in substantially the same form in which they were imported were shown as purchased directly by the consuming industry or final market.

**Gross output and gross input.** Gross output of an industry represents the sum of the values of the following elements: (a) the total production by the industry, including both primary and secondary products or services; (b) the producers' value of the secondary products or services of other industries which are primary to the given industry; and (c) the domestic port value of imports which are distributed as part of the output of the given industry.

Gross input of an industry is equal to the sum of the values of the following elements: (a) total consumption of goods and services required for the industry's total production; (b) value added by the industry; (c) the producers' value of the secondary products or services of other industries which are primary to the given industry; and (d) the domestic port value of imports which are distributed as part of the output of the given industry.<sup>14</sup>

Gross output, the row total, equals gross input, the column total.

12. The basic unit of classification in the SIC is the establishment. An establishment is classified in an industry based on its principal activity. However, once an establishment is classified in an industry, its entire output, subsidiary as well as principal, is counted as part of the output of the industry. Its principal output, that which determines its industry classification, is called primary output; its other (subsidiary) output is called secondary.

13. Substitutability was determined on a judgmental basis using the following guide: the import should be interchangeable with a domestically produced item without any changes in the technology of the consuming industry or the resultant product.

14. Secondary products and imports are added to both the inputs and outputs.

**Inventories.** The inventory change shown for each industry represents the change in inventories of the industry's products regardless of which industry actually owns or holds the inventories. (This is different from the customary industry inventory figures which represent inventories held by each industry.) Inventories are so classified in the input-output table in order to provide the balance between the output of each industry and the total consumption of its products. Current production includes products which end up in

inventories and are therefore not reflected in consumption. On the other hand, consumption may come from inventories of the producer, of the consumer, or of trade companies as well as from current output. To the extent it comes from inventories, it is not included in current production. Therefore, adding inventory increases of products of the industry to, and subtracting depletions from, the consumption of that industry's products achieves the balance with gross output of the industry.

#### Industry Numbering for the 1958 Input-Output Study

Industry No. and Industry Title	Related SIC Codes (1957 Edition)	Industry No. and Industry Title	Related SIC Codes (1957 Edition)
Agriculture, forestry & fisheries			
1 Livestock & livestock products	013, pt. 044, 0196, pt. 02, pt. 0725	46 Materials handling machinery & equipment	3034, 3036, 3536, 3537
2 Other agricultural products	011, 012, pt. 014, 016, 018, pt. 02	47 Metalworking machinery & equip- ment	354
3 Forestry & fibery products	074, 081, 082, 084, 086, 091	48 Special industry machinery & equipment	355
4 Agricultural, forestry & fisheries ser- vices	071, 0725, pt. 0729, 084, 094	49 General industrial machinery & equipment	356
Mining		50 Machine shop products	359
5 Iron & ferroalloy ore mining	1011, 104	51 Office, computing & accounting machines	357
6 Nonferrous metal ore mining	102, 103, 104, 105, 108, 109	52 Service industry machines	358
7 Coal mining	111, 112	53 Electric transmission & distribution equipment, & electrical industrial operators	361, 362
8 Crude petroleum & natural gas	1211, 1212	54 Household appliances	363
9 Stone & clay mining & quarrying	141, 142, 144, 146, 148, 149	55 Electric lighting & wiring equip- ment	364
10 Chemical & fertilizer mineral mining	147	56 Radio, television, & communica- tion equipment	365, 366
Construction		57 Electronic components & accessories	367
11 New construction	268, pt. 15, pt. 16, pt. 17, pt. 2691	58 Miscellaneous electrical machinery, equipment, & supplies	369
12 Maintenance & repair construction	pt. 15, pt. 16, pt. 17	59 Motor vehicles & equipment	371
Manufacturing		60 Aircraft & parts	372
13 Ordnance & accessories	19	61 Other transportation equipment	373, 374, 375, 376
14 Food & kindred products	20	62 Professional, scientific, & controlling instruments & supplies	374, 382, 384, 387
15 Tobacco manufactures	21	63 Optical, ophthalmic, & photographic equipment & supplies	388, 389, 390
16 Broad & narrow fabrics, yarn & thread mills	221, 222, 232, 224, 226, 228	64 Miscellaneous manufacturing	391 (exc. 3942)
17 Miscellaneous textile goods & fiber coverings	237, 239	65 Transportation, communication, electric, gas, & military services	392
18 Apparel	235, 236 (exc. 239), 2392	66 Transportation & warehousing	40, 41, 42, 44, 45, 46, 47
19 Miscellaneous fabricated textile products	239	67 Communications, except radio & television broadcasting	481, 482, 489
20 Lumber & wood products, except containers	24	68 Radio & T.V. broadcasting	483
21 Wooden containers	244	69 Electric, gas, water, & sanitary services	49
22 Household furniture	251	Wholesale & retail trade	
23 Other furniture & fixtures	25 (exc. 261)	69 Wholesale & retail trade	50 (exc. manu- facturers sales offices), 52, 53, 54, 55, 56, 57, 58, 59, pt. 7893
24 Paper & allied products, except em- balming & boxes	25 (exc. 265)	Finance, insurance & real estate	
25 Paperboard containers & boxes	265	70 Finance & insurance	50, 51, 52, 53, 54, 55, 57
26 Printing & publishing	27	71 Real estate & rental	55 (exc. 5541 & pt. 5581)
27 Chemicals & selected chemical products	281 (exc. alumina pt. of 2810), 286, 287, 289	Services	
28 Plastics & synthetic materials	293	72 Hotels & lodging places; personal & repair services, except automobile repair	70, 72, 76 (exc. 7894 & 7895)
29 Drugs, cleaning, & toilet prepara- tions	283, 284	73 Business services	5451, 73 (exc. 7361, 7391, & pt. 7890, 7894, 7895, 81, 89 (exc. 8221)
30 Paints & allied products	285	74 Research & development	75
31 Petroleum refining & related in- dustries	29	75 Automobile repair & services	76, 79
32 Rubber & miscellaneous plastics products	30	76 Amusements	0722, 7381, 80, 82,
33 Leather tanning & industrial leather products	311, 312	77 Medical, educational services, & nonprofit organizations	84, 85, 892
34 Footwear & other leather products	31 (exc. 311, 312)	Government enterprises	
35 Glass & glass products	221, 222, 232	78 Federal Government enterprises	
36 Stone & clay products	224, 225, 232, 227, 228, 229	79 State & local government enterprises	
37 Primary iron & steel manufacturing	281, 282, 2891, 2899	Imports	
38 Primary nonferrous metals manufac- turing	2819 (alumina only), 283, 284, 285, 286, 2897	80 Gross imports of goods & services	
39 Metal containers	3411, 3491	81 Business travel, entertainment, & gifts	
40 Heating, plumbing & fabricated structural metal products	345, 346	82 Office supplies	
41 Screw machine products, bolts, nuts, etc., & metal stampings	347, 348, 349	83 Scrap, used & secondhand goods	
42 Other fabricated metal products	347, 348 (exc. 349)	Special Industries	
43 Engines & turbines	351	84 Government industry	
44 Farm machinery & equipment	352	85 Rest of the world industry	
45 Construction, mining, oil field ma- chinery & equipment	3531, 3532, 3533	86 Household industry	

A more complete discussion of the 1958 input-output study, with special emphasis on the technical and conceptual aspects, is contained in an unpublished document available upon request from the Office of Business Economics.

**Table 1.—Percent Distribution of Gross Output, 1968  
(Producers' prices)**

For the distribution of output of an industry  
read the row for that industry

**Table 1.—Percent Distribution of Gross Output, 1958—Continued**  
(Producers' price)

**Table 1.—Percent Distribution of Gross Output, 1966—Continued**  
 (Producers' prices)

\*Less than .05 percent. Not applicable.

For this table, Industry 20 is split into two rows. Row 20A shows the direct allocation to consuming industries of imported goods and services which are not substitutable for do-

mentally produced goods and services. It also shows the distribution to final demand categories of all imported goods and services which are consumed in substantially the same form in which they were imported. 48 percent of total imports have been

**Table 1.—Percent Distribution of Gross Output, 1968—Continued**  
**(Producers' Price)**

directly allocated to consuming industries and final demand. Row 20B shows the classification of transferred imports according to the industry producing the domestic goods and services for which those imports are substitutes. 35 percent of total imports have been transferred

to domestic producing industries. Note: Detail may not add to total due to rounding.  
Source: U.S. Department of Commerce, Office of Business Economics.

**Table 2.—Direct Requirements Per Dollar of Gross Output, 1958** (Producer's prices)

**Table 2.—Direct Requirements Per Dollar of Gross Output, 1958—Continued**  
 (Producers' prices)

Table 2.—Direct Requirements Per Dollar of Gross Output, 1958—Continued  
(Producers' prices)

For industrial consumption of input into an industry read the column for that industry	Health, plumbing & structural metal products	Shampooing, soap products & toiletries	Other fabricated metal products	Engines & turbines	Farm machinery & equipment	Construction, mining & metal industry	Materials handling machinery & equipment	Motor vehicles machinery & equipment	Special industry machinery & equipment	General industrial machinery & equipment	Machine shop products	Office, computing & accounting machines	Service industry machines	Electric industrial equipment & dynamos	Household appliances	Electric lighting & wiring equipment	Radio, television & sound equipment	Electroic components & accessories	Auto. electrical machinery, equipment & supplies	Motor vehicles & equipment	Aircraft & parts	Other transportation equipment
40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	
1.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7.	0.00023	0.00036	0.00026	0.00102	0.00092	0.00068	0	0	0.00001	0.00020	0.00013	0	0.00033	0.00032	0.00033	0	0.00029	0.00016	0.00033	0.00018	0.00068	
8.	0.00013	0	0.00017	0	0.00016	0.00012	0	0	0	0	0	0	0	0	0	0	0	0	0.00017	0.00001	0	0.00007
9.	0	0	0.00004	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.	0.00011	0.00064	0.00050	0.00082	0.00070	0.00023	0.00002	0.00211	0.00045	0.00116	0.00072	0.00120	0.00131	0.00063	0.00048	0.00076	0.00004	0.00008	0.00128	0.00024	0.00068	
13.	0.00012	0	0.00019	0	0.00019	0.00032	0	0.00027	0	0.00009	0.00013	0.00004	0.00113	0	0.00020	0.00001	0.00022	0.00020	0.00026	0.00160	0	0.00068
14.	0	0	0.00003	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16.	0.00024	0.00008	0.00032	0.00009	0.00026	0.00008	0.00145	0	0.00120	0.00054	0.00006	0.00072	0.00120	0.00029	0.00024	0.00024	0	0.00022	0.00015	0.00068	0	
17.	0	0.00009	0.00011	0.00011	0.00011	0	0	0	0	0	0	0	0	0	0	0	0	0.00017	0.00009	0.00049	0.00071	
18.	0.00008	0.00016	0.00016	0	0.00076	0.00072	0	0.00106	0.00100	0.00093	0.00130	0.00064	0.00021	0.00094	0.00071	0.00067	0.00074	0.00123	0.00002	0.00044	0.00069	0.00157
19.	0.00001	0.00012	0.00002	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00001	0	0.00002	0	
20.	0.00028	0.00009	0.00076	0.00027	0.00011	0.00124	0.00078	0.00038	0.00043	0	0.00063	0.00026	0.00126	0.00126	0.00179	0.00023	0.00002	0.00054	0.00120	0.00006	0	
21.	0.00100	0.00073	0.00073	0	0.00029	0	0.00001	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22.	0	0.00077	0.00127	0	0.00004	0.00016	0	0	0	0	0	0	0	0	0	0	0	0.00017	0.00001	0.00028	0.00006	0.00072
23.	0.00161	0.00113	0.00100	0	0.00060	0	0.00048	0	0.00002	0.00003	0	0	0	0	0	0	0	0.00019	0.00060	0.00149	0.00071	
24.	0.00183	0.00066	0.00080	0.00111	0	0.00065	0.00081	0.00001	0.00012	0	0.00027	0	0.00066	0.00066	0.00023	0.00012	0.00017	0.00058	0.00129	0.00004	0.00068	
25.	0.00023	0.00116	0.00072	0	0.00057	0	0.00036	0	0.00028	0	0.00161	0	0.00172	0	0.00082	0.00174	0.00151	0.00043	0.00044	0.00074	0.00038	
26.	0.00008	0.00152	0.00147	0.00045	0.00042	0.00050	0	0	0	0	0	0	0	0	0	0	0	0	0.00053	0.00021	0.00060	0.00049
27.	0	0.00024	0.00023	0	0.00007	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28.	0	0.00023	0.00064	0.00006	0.00005	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29.	0	0.00023	0.00063	0.00063	0.00115	0.00047	0	0.00048	0	0.00002	0	0.00027	0	0.00114	0	0.00060	0.00023	0.00061	0.00047	0.00112	0.00074	
30.	0	0.00023	0.00063	0.00063	0.00115	0	0.00044	0	0.00002	0	0.00020	0	0.00063	0.00011	0.00018	0	0.00004	0.00047	0.00040	0.00060	0.00104	
31.	0	0.00027	0.00044	0.00057	0	0.00001	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32.	0	0.00027	0.00052	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33.	0	0.00027	0.00052	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34.	0	0.00013	0.00009	0.00014	0.00104	0	0.00001	0	0	0	0	0	0	0	0	0	0	0	0.00019	0.00009	0.00043	0
35.	0	0.00001	0.00028	0.00008	0.00011	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36.	0	0.00027	0.00050	0.00050	0.00145	0	0.00002	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37.	0	0.00021	0.00078	0.00081	0.00340	0	0.00074	0	0.00002	0	0	0	0	0	0	0	0	0	0	0	0	0
38.	0	0.00027	0.00068	0.00078	0.00115	0	0.00002	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39.	0	0.00041	0.00072	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40.	0	0.00020	0.00072	0.00071	0.00118	0	0.00024	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41.	0.01924	0.04022	0.01964	0.02210	0.01924	0.01038	0.01739	0.02046	0.01942	0.01118	0.01010	0.01087	0.01507	0.01481	0.01282	0.01276	0.01832	0.02040	0.01919	0.02025	0.04087	
42.	0.01948	0.04028	0.01920	0.02207	0.01959	0.01095	0.01705	0.02041	0.01841	0.01907	0.01087	0.01087	0.01506	0.01481	0.01282	0.01276	0.01832	0.02040	0.01921	0.02027	0.04078	
43.	0.00988	0.01643	0.01643	0.02222	0.01932	0.01338	0.01900	0.02043	0.01840	0.01900	0.01221	0.01026	0.01026	0.01501	0.01481	0.01282	0.01276	0.01832	0.02040	0.01919	0.02025	
44.	0.00174	0.01016	0.01012	0.02160	0.01965	0.01764	0.01942	0.02043	0.01843	0.01932	0.01225	0.01026	0.01026	0.01502	0.01481	0.01282	0.01276	0.01832	0.02040	0.01919	0.02025	
45.	0.00028	0.00027	0.00029	0.00024	0.00024	0.00024	0	0.00027	0.00001	0.00001	0	0	0	0.00049	0.00011	0.00027	0.00025	0.00049	0.00011	0.00027	0.00045	
46.	0	0.00027	0.00027	0.00027	0.00027	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47.	0	0.00027	0.00027	0.00027	0.00027	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48.	0	0.00028	0.00049	0.00013	0.00027	0.00013	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49.	0.00018	0.00018	0.00018	0.00018	0.00018	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50.	0.00012	0.00012	0.00012	0.00012	0.00012	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51.	0.00031	0.00015	0	0.00003	0.00003	0.00003	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52.	0	0.00028	0.00038	0.00005	0.00005	0.00005	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53.	0.01126	0.04447	0.01758	0.01758	0.01758	0	0	0	0	0												

Table 2.—Direct Requirements Per Dollar of Gross Output, 1958—Continued  
 (Producer's prices)

Industries producing the scrap or by-products and reduced in the consuming industries. The entries in this row are the offsetting adjustments necessary to restore the industry from unity.

NOTE.—Detail may not add to total due to rounding.

Source: U.S. Department of Commerce, Office of Business Economics.

**Table 3.—Total Requirements (Direct and Indirect) Per Dollar of Delivery to Final Demand, 1953**

(Producers' prices)

Each entry represents the output required, directly and indirectly, from the industry named at the beginning of the row for each dollar of delivery to final demand by the industry named at the head of the column.

	Livestock & Livestock products	Other agricultural products	Forestry & fishery products	Agricultural, forestry & fishery services	Fuels & fertilizer etc mining	Metallic ore mining	Coal mining	Crude petroleum & natural gas	Stone & clay mining & quarrying	Chemical & fertilizer mining	New construction	Maintenance & repair & construction	Ordinance & accessories	Food & kindred products	Textiles manufactures	Bread & flour mills, yarn & textile mills
I	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
1. Livestock & Livestock Products.....	1,239,000	10,846	0,0107	2,167,97	0,0338	0,0015	0,0284	0,0062	0,0220	0,0053	0,0141	0,0053	0,39645	0,02894	0,0451	
2. Other Agricultural Products.....	26,943	17,930	1,5036	4,9224	0,0423	0,0089	0,0089	0,0048	0,0125	0,0046	0,0136	0,0021	2,0724	2,8835	1,901	
3. Forestry & Fishery Products.....	1,0116	1,0871	1,11189	0,0032	0,0091	0,0048	0,0031	0,0138	0,0029	0,0040	0,0043	0,0027	0,0071	0,0056	0,0027	0,007
4. Agricultural, Forestry & Fishery Services.....	1,0783	1,0425	1,01978	1,02145	0,0031	0,0051	0,0036	0,0036	0,0029	0,0045	0,0101	0,0045	0,0142	0,0094	0,0081	
5. Iron & Ferroalloy Ores Mining.....	1,0049	0,0045	0,0032	0,0038	1,03688	0,0166	0,0220	0,0053	0,0277	0,0333	0,0076	0,0322	0,0423	0,0158	0,0052	0,011
6. Nonferrous Metal Ores Mining.....	1,0000	0,0007	0,0044	0,0036	0,0203	1,01632	0,0200	0,0056	0,0181	0,0221	0,0533	0,0396	0,1123	0,0094	0,0070	0,012
7. Coal Mining.....	1,0186	0,0230	1,00193	0,0076	0,0277	0,0161	0,0077	0,0116	0,0063	0,0546	0,0689	0,0296	0,0040	0,0080	0,0134	
8. Crude Petroleum & Natural Gas.....	1,0170	0,0304	1,04458	1,0192	1,02943	1,0370	1,02848	0,0277	0,0102	0,0182	0,0560	0,0792	0,1457	0,0040	0,0170	
9. Stone & Clay Mining & Quarrying.....	1,0173	0,0049	0,0081	1,0179	0,0080	0,0129	0,0143	0,0044	0,0274	0,0185	0,0166	0,0115	0,0138	0,0137	0,0123	0,0144
10. Chemical & Fertilizer Mineral Mining.....	1,0146	0,0271	0,0032	0,0030	0,0205	0,0013	0,0079	1,0152	0,0059	0,0127	0,0121	0,0072	0,0130	0,0139	0,0085	
11. New Construction.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12. Maintenance & Repair Construction.....	1,0887	0,0277	1,01261	0,0102	0,0163	0,0119	0,0109	0,0191	0,0124	0,0188	0,0200	0,0100	0,0298	0,1125	0,0183	
13. Ordinance & Accessories.....	1,0013	0,0017	1,0012	0,0010	0,0018	1,0019	0,0017	0,0013	0,0018	0,0019	0,0010	0,0027	0,0466	0,0030	0,0042	0,003
14. Food & Kindred Products.....	1,0782	8,1671	1,0842	1,0882	1,0462	1,0587	1,0532	0,0497	0,0571	0,0783	0,0054	0,0772	1,0300	1,0219	1,0717	0,0289
15. Tobacco Manufacture.....	1,0015	0,0019	0,0016	1,0014	0,0021	0,0027	0,0029	0,0028	0,0039	0,0043	0,0025	0,0085	1,0263	0,0053		
16. Broad & Narrow Fabric, Yarn & Thread Mills.....	1,0049	0,0369	0,0411	0,0008	0,0110	0,0077	0,0283	0,0091	0,0044	0,0192	0,0351	0,0178	0,0470	0,0421	0,0228	1,0481
17. Miscellaneous Textile Goods & Floor Coverings.....	1,0058	0,0003	0,0140	1,0002	0,0051	0,0038	0,0132	0,0061	0,0008	0,0098	0,0200	0,0108	0,0338	0,0157	0,0130	0,0099
18. Apparel.....	1,0041	0,0037	0,0033	0,0038	0,0028	0,0047	0,0040	0,0043	0,0025	0,0031	0,0033	0,0027	0,0334	0,0029	0,0038	0,0038
19. Miscellaneous Fabricated Textile Products.....	1,0168	0,0259	0,0116	0,0029	0,0041	0,0031	0,0041	0,0038	0,0025	0,0043	0,0042	0,0079	0,0068	0,0068	0,0068	0,0068
20. Lumber & Wood Products, Except Containers.....	1,0380	0,0357	0,0373	1,0018	0,0033	0,0074	0,0163	0,0043	0,0047	0,0327	0,0310	0,03780	0,0558	0,0593	0,0671	0,0529
21. Wooden Containers.....	1,0205	0,0408	0,0214	0,0018	0,0019	0,0019	0,0019	0,0013	0,0027	0,0018	0,0081	0,0249	0,0125	0,0320	0,0327	0,0111
22. Household Furniture.....	1,0008	0,0011	0,0019	0,0009	0,0012	0,0008	0,0001	0,0001	0,0008	0,0008	0,0008	0,0030	0,0133	0,0014	0,0008	0,0012
23. Other Furniture & Fixtures.....	1,0008	0,0009	0,0012	0,0006	0,0006	0,0005	0,0009	0,0005	0,0005	0,0007	0,0006	0,0037	0,0117	0,0070	0,0009	0,0005
24. Paper & Allied Products, Except Containers.....	1,0097	0,0853	0,0507	0,0338	0,0381	0,0037	0,0004	0,0054	0,0193	0,0240	0,0134	0,0456	0,0234	0,0148	0,0244	0,0244
25. Paperboard Containers & Boxes.....	1,0510	0,0268	0,0028	0,0033	0,0101	0,0161	0,0143	0,0101	0,0065	0,0226	0,0158	0,0158	0,0174	0,0185	0,0175	0,0123
26. Printing & Publishing.....	1,0128	0,0681	0,0819	0,0040	0,0596	0,0074	0,0094	0,0286	0,0060	0,0315	0,0334	0,0273	0,0140	0,0262	0,0507	0,0154
27. Chemicals & Selected Chemical Products.....	1,0017	0,0788	0,0821	1,0174	0,0517	0,0338	0,0059	0,0240	0,0380	0,0287	0,0238	0,0176	0,0704	0,0398	0,1107	
28. Plastics & Synthetic Materials.....	1,0278	0,0481	0,0477	0,0411	0,0168	0,0034	0,0408	0,0184	0,0003	0,0337	0,0176	0,0064	0,0261	0,1470		
29. Drugs, Cleaning & Toilet Preparations.....	1,0328	0,0168	0,0112	0,0138	0,0082	0,0158	0,0111	0,0089	0,0171	0,0155	0,0248	0,0223	0,0245	0,0068	0,0075	
30. Paints & Allied Products.....	1,0301	0,0238	0,0281	0,0138	0,0135	0,0148	0,0156	0,0168	0,0123	0,0127	0,0134	0,0351	0,0236	0,0118	0,002	
31. Petroleum Refining & Related Industries.....	1,0251	0,0548	0,0286	0,0193	0,0182	0,0063	0,0060	0,0282	0,0063	0,0226	0,0341	0,0248	0,0368	0,0174	0,0277	
32. Rubber & Miscellaneous Plastics Products.....	1,0074	0,0178	0,0098	0,0030	0,0046	0,0078	0,0158	0,0079	0,0231	0,0006	0,0288	0,0345	0,0085	0,0067	0,0104	
33. Leather Tanning & Industrial Leather Products.....	1,0009	0,0112	0,0008	0,0007	0,0008	0,0007	0,0009	0,0006	0,0011	0,0006	0,0019	0,0012	0,0012	0,0012	0,0014	
34. Footwear & Other Leather Products.....	1,0020	0,0259	0,0014	0,0007	0,0010	0,0012	0,0008	0,0013	0,0013	0,0012	0,0021	0,0020	0,0114	0,0022	0,0023	
35. Glass & Glass Products.....	1,0054	0,0094	0,0086	0,0049	0,0068	0,0088	0,0050	0,0050	0,0076	0,0049	0,0032	0,0041	0,0132	0,0005	0,0046	
36. Stone & Clay Products.....	1,0270	0,0410	0,0219	0,0036	0,0052	0,0068	0,0196	0,0182	0,0057	0,0275	0,0429	0,0584	0,0449	0,0124	0,0325	0,0174
37. Primary Iron & Steel Manufacturing.....	1,0892	0,0031	0,0722	0,0064	0,0309	0,0747	0,0367	0,0786	0,0392	0,0428	1,0639	0,0543	0,0745	0,0288	0,0196	
38. Primary Nonferrous Metal Manufacturing.....	1,0388	0,0152	0,0334	0,0047	0,0082	0,0186	0,0186	0,0171	0,0176	0,0110	0,0404	0,0374	1,0822	0,0691	0,0704	
39. Metal Containers.....	1,0593	0,0223	0,0146	0,0016	0,0018	0,0007	0,0066	0,0071	0,0071	0,0086	0,0118	0,0128	0,0091	0,0262	0,0275	
40. Heating, Plumbing & Structural Metal Products.....	1,0057	0,0174	0,0163	0,0024	0,0222	0,0272	0,0204	0,0227	0,0197	0,0384	0,0471	0,0481	0,0159	0,0355	0,0161	
41. Stamping, Screw Machine Products & Bolts.....	1,0286	0,0151	0,0107	0,0020	0,0065	0,0261	0,0067	0,0167	0,0275	0,0281	0,0088	0,0502	0,0245	0,0662	0,0103	0,0181
42. Other Fabricated Metal Products.....	1,0065	0,0003	0,0118	0,0082	0,0068	0,0103	0,0069	0,0164	0,0097	0,0289	0,0078	0,0322	0,0429	0,0349	0,0334	
43. Engines & Turbines.....	1,0063	0,0105	0,0139	0,0055	0,0174	0,0202	0,0219	0,0238	0,0068	0,0221	0,0204	0,0062	0,0382	0,0309	0,0079	0,0079
44. Farm Machinery & Equipment.....	1,0365	0,0229	0,0209	0,0067	0,0069	0,0223	0,0213	0,0140	0,0049	0,0157	0,0260	0,0127	0,0448	0,0226	0,0204	
45. Construction, Mining & Oil Field Machinery.....	1,0051	0,0050	0,0061	0,0066	0,0236	0,0394	0,0149	0,0178	0,0129	0,0242	0,0421	0,0244	0,0217	0,0061	0,0043	
46. Materials Handling Machinery & Equipment.....	1,0014	0,0022	0,0012	0,0084	0,0052	0,0161	0,0119	0,0182	0,0053	0,0193	0,0193	0,0061	0,0067	0,0117	0,0021	0,0021
47. Metalworking Machinery & Equipment.....	1,0022	0,0022	0,0076	0,0044	0,0270	0,0067	0,0100	0,0283	0,0129	0,0192	0,0141	0,0211	0,0175	0,0077	0,0175	
48. Special Industry Machinery & Equipment.....	1,0056	0,0048	0,0061	0,0065	0,0047	0,0067	0,0032	0,0126	0,0068	0,0069	0,0189	0,0161	0,0316	0,0075	0,0114	0,0114
49. General Industrial Machinery & Equipment.....	1,0059	0,0047	0,0093	0,0023	0,0026	0,0226	0,0268	0,0066	0,0161	0,0163	0,0161	0,0176	0,0073	0,0115	0,0073	
50. Machine Shop Products.....	1,0057	0,0079	0,0047	0,0046	0,0084	0,0132	0,0140	0,0053	0,0178	0,0227	0,0184	0,0579	0,0069	0,0044	0,007	
51. Office, Computing & Accounting Machines.....	1,0020	0,0004	0,0007	0,0044	0,0003	0,0023	0,0101	0,0048	0,0063	0,0055	0,0063	0,0061	0,0062	0,0037	0,0033	0,0113
52. Service Industry Machines.....	1,0023	0,0039	0,0048	0,0023	0,0024	0,0029	0,0030	0,0098	0,0028	0,0028	0,0050	0,0223	0,0258	0,0040	0,0033	0,0033
53. Electric Industrial Equipment & Apparatus.....	1,0026	0,0116	0,0138	0,0030	0,0086	0,0331	0,0104	0,0066	0,0181	0,0142	0,0142	0,0130	0,0071	0,0181	0,0039	0,0119
54. Household Appliances.....	1,0020	0,0027	0,0027	0,0023	0,0023	0,0023	0,0023	0,0024	0,0026	0,0026	0,0043	0,0122	0,0039	0,0039	0,0039	0,0102
55. Electric Lighting & Wiring Equipment.....	1,0074	0,0058	0,0047	0,0047	0,0033	0,0112	0,0112	0,0058	0,0058	0,0058	0,0058	0,0174	0,0191	0,0191	0,0191	
56. Radio, Television & Communication Equipment.....	1,0049	0,0056	0,0059	0,0189	0,0059	0,0053	0,0050	0,0068	0,0068	0,0068	0,0068	0,0061	0,0065	0,0065	0,0065	
57. Electronic Components & Accessories.....	1,0024	0,0041	0,0028	0,0027	0,0041	0,0121	0,0121	0,0047	0,0047	0,0047	0,0047	0,0142	0,0142	0,0142	0,0142	
58. Mice, Electrical Machinery, Equipment & Supplies.....	1,0153	0,0169	0,0098	0,0060	0,0178	0,0247	0,0247	0,0183	0,0247	0,0247	0,0247	0,0247	0,0247	0,0247	0,0247	
59. Motor Vehicles & Equipment.....	1,0193	0,0041	0,0045	0,0049	0,0049	0,0121	0,0121	0,0121	0,0121	0,0121	0,0121	0,0121	0,0121	0,0121	0,0121	
60. Aircraft & Parts.....	1,0021	0,0143	0,0141	0,0041	0,0041	0,0128	0,0128	0,0128	0,0128	0,0128	0,0128	0,0128	0,0128	0,0128	0,0128	
61. Other Transportation Equipment.....	1,0072	0,0183	0,0048	0,0048	0,0048	0,0112	0,0112	0,0063</								

Table 3.—Total Requirements (Direct and Indirect) Per Dollar of Delivery to Final Demand, 1958—Continued  
 (Producer's prices)

**Table 3.—Total Requirements (Direct and Indirect) Per Dollar of Delivery to Final Demand, 1958—Continued**

**Table 3.—Requirements (Direct and Indirect) Per Dollar of Delivery to Final Demand, 1958—Continued**

(Producers' prices)